

**Minutes of the Carlisle Board of Health  
March 11, 2008**

Present: Board Members Jeffrey Brem (Chairman), Bill Risso, Chris Deignan; Michael Holland; absent Leslie Cahill; also present: Linda Fantasia (Agent), Laura Sholten (Mosquito)

The meeting was called to order at 7:30 p.m. at the town hall. Holland had not yet arrived.

**COMMUNITY SEPTIC LOAN PROGRAM** - Nihar Mohanty (DEP) responded via email dated 3/11/08 to the Board's questions. There is no specific application form at this time. The Statement of Program Objectives will be sufficient. The interest rate can be either 2% or 5%. DEP has a model warrant article. The town is no longer required to set up an inspection program for the \$200,000 loan. DEP is no longer using the \$150,000 income cap. Brem liked the Town of Hopkinton package but asked Board members to review the other packages. (Holland arrives). Brem will prepare a presentation for town meeting based using Mohanty's slides. Town meeting needs to authorize the Town to borrow from the state. The article must be reviewed by Town counsel and Larry Barton.

**PUBLIC HEARING (Cont) ON PROPOSED CHANGES TO LOCAL SEPTIC REGULATIONS**

At the previous meeting, the Board reviewed the proposed changes and public comments submitted. No additional comments were received. Brem suggested going over each of the submitted comments and whether they had been incorporated into the draft.

Tricia Smith (Conservation Commission) submitted a memo dated 3/10/03 recommending 12" of cover over a leaching area intended for grazing livestock. Brem said Title 5 requires 9" of cover excluding topsoil and asked whether the Board wants to increase this. Risso said this is already covered in Additional Town Policies – Restricted Uses within Soil Absorption System. He would prefer to have it as a regulation. The Board agreed to add it to 15.251 Leaching Trenches- "Cover shall not be less than 12 inches in areas intended for the grazing of livestock."

Bill Tice wrote on 10/9/07 that the Building Inspector is responsible for reviewing retaining walls. The Board noted that the Building Inspector only reviews walls of a certain height. The Board wanted all retaining walls considered. It also limits the exposed height to be not greater than 5'. The Board does not want to comment on location of walls, which is a zoning issue.

The Board then considered Ed Rolfe's (Zoning Board of Appeals) memo dated 10/0/07. Rolfe recommends providing specific criteria to be included in a hydrogeological evaluation, such as groundwater flow directions, geological stratigraphy and maximum groundwater elevations. The proposed regulation requires a "ModFlow" study to be submitted to the Board. Brem said any report done by a qualified expert would normally include these items. Risso warned that the geologist hired by the Coventry Woods Developer did not address many of these items. Brem said that it would be up to the Board of Health whether the report is complete. The information provided by the Coventry Woods abutter's consultant was more in keeping with what the Board would require. Brem asked if Holland had any comments since he is more familiar with these studies. Holland said the final design guidelines for wastewater treatment plants (WWTP) have criteria. The Board could reference the criteria. Discussion followed on how helpful this report would be for smaller septic systems compared to a larger WWTP. Holland will look into the WWTP design criteria for next meeting. He offered to check with the state hydrogeologist for specifications.

Rolfe would like to see a performance standard of 5 mg/L for nitrogen loading. The Drinking Water Standard (DWS) is 10 mg/L. The Board has already agreed to the 5 mg/L. Brem noted that Stamski & McNary (SMI) believes there is no valid reason to set a limit lower than the (DWS). Risso said the DWS is based on theory not actual measurements. He is adamant about setting a lower limit as opposed to the theoretical standard. Brem felt there was already a huge assumption in the DWS standard, but agreed to concede the point.

The next item was retaining walls. Brem noted that the language addressing retaining walls has been changed and incorporated. Rolfe would also like to prohibit the use of perchlorate in blasting. Brem said this is not appropriate for the septic regulations, but the Board may look into it for the well regulations.

The next item in Rolfe's memo recommended monitoring wells for systems of a certain size. The Board has discussed this at length. Monitoring wells do not solve a problem; just alert that there is one. The big question is how to deal with a problem. Risso said if the monitoring wells are not maintained they can be problematic. He suggested that if a hydro-analysis is done and it includes monitoring wells, they should be left in place for possible future use. Holland said monitoring wells are required for WWTPs. If a system requires hydro-analysis there will usually be two to four monitoring wells. Wells located downgradient are more critical. The Board debated whether it makes sense to keep wells if they are already on site. If left in place, they would have to be maintained. Holland said the school monitors their wells quarterly. This is typical for large systems. The Board agreed that large systems are not a problem since they receive regular monitoring. How much monitoring is needed for smaller systems is the question. The sampling may not be very helpful. Risso said that any monitoring wells used for evaluation should be kept. The Board can then decide whether to continue the monitoring. It may be project specific. Brem agreed and noted that the town has funds set aside for evaluating water quality in town. Brem suggested adding to the regulations that monitoring wells drilled for a hydrogeological study not be abandoned and that the Board retain the right to access the property to maintain and monitor the wells. The Board noted that wells could be monitored for years with no benefit, although Holland said that typically there would be SAS influence within three months. Risso noted that in a large development such as Coventry Woods, it might take three years to get flows from full occupancy. That is when it would be important to test. Brem said that large systems are required to be inspected every three years offering another means of evaluation. Risso asked whether the Title 5 Inspection would require the sampling and if not, that the Board could add this as a condition. Holland said the performance standard would be total nitrogen and fecal coliform. There should not be massive amounts. Brem suggested testing for BODs, TSS, fecal coliform and total nitrogen every three years as part of the inspection program using the original monitoring wells installed for the hydrological evaluation. Holland said only the downgradient wells would need to be sampled.

Rolfe's memo also suggested requiring charcoal filters for vents. The Board noted that vents are required only under certain conditions in Title 5. The Board does not see the need for the filters. Holland noted that if a charcoal filter is decent it is expensive and if not installed correctly can cause a vent not to work. The Board was not inclined to regulate vents. Risso had never heard of a complaint. Fantasia said homeowners have called about odors, usually when the pump goes on. This was the case at town hall and a filter was installed. The Board agreed this could be optional. It is not a health hazard.

As for additional vertical separation to ledge, the Board was not clear on why Rolfe was asking for this. The Board agreed it is covered in Title 5.

Rolfe also recommends that for a system above a certain size any rise in groundwater elevation at the property line should be a failure criteria. The Board agreed that if there is a substantial increase in the groundwater level due to mounding, it would be justification for a denial. Holland said that sometimes the topography can be a factor. An increase of 1.0' at the property line may or may not be a problem depending on the site. This will be up to the Board to review and decide. Brem suggested that the proposed model shall predict no rise in groundwater elevation and no greater than 5 mg/l of nitrogen at all property lines. The Board agreed.

The Board then discussed comments submitted by Sylvia Willard, Conservation Administrator on Bordering Land Subject to Flooding (BLSF) and Isolated Land Subject to Flooding (ILSF). The Board had asked for clarification because of comments from Stamski & McNary. According to Willard BLSF and ILSD are protected resource areas but without 100' buffer zones. BLSF provides temporary storage and includes the 100-year flood plain. It can include significant habitat including vernal pools. ILSD is an isolated depression that serves as a ponding area for runoff. Holland asked what the Board had in place as a setback to wetlands. Brem said it is 100' with performance standards on how to grant a waiver. He read Willard's guidance from DEP. SMI is concerned that by including ILSF and BLSF in the definition of wetland setback requirements

will result in significant hardship. Title 5 does not address these. Brem said that is because the flooding is volumetric and temporary and may not affect an SAS. Holland asked if an SAS can be located in the floodplain. Brem said it could. The flood plain is not the same as groundwater that must be 4.0' below the SAS. Even if an area floods, it may not affect the SAS. The water recedes but does not go subsurface. The Board agreed to revise the definition of wetland. Conservation will still have its authority over these areas. The Board will advise the Commission of its intent since there is still time for additional comments.

Tom Brownrigg former Conservation Commissioner submitted comments on 12/6/07 stating that reducing the setback to wetlands will result in more buffer zone area being cleared and an increase in the amount of lawn and potential pesticide use. He is also concerned about a potential increase in evapotranspiration and loss of wildlife habitat. Brem noted that the proposed regulations allow waivers only when there are specific environmental benefits; it is not by right. Other land use boards can weigh-in as needed.

Tricia Smith submitted a memo on behalf of the Conservation Commission with language for granting waivers to wetlands. Brem noted that the language had been reviewed previously and the Board has included soil conditions, topography, and alternative technology references. He explained that the main difference between the Conservation Commission and the Board is that the Commission works within performance standards and presumptions that can be overcome whereas the Board of Health adopts regulations that are prescriptive and must be waived. Smith's language is more appropriate to the Commission's jurisdiction.

The Board then moved on to a memo dated 1/29/08 from SMI that has eight points. The first question involves identifying breakout slopes and retaining walls as synonymous with soil absorption system. The same setbacks would then apply. SMI explained that a system could have 20' of fill, which would result in 120' to wetlands from what would normally be considered the system. Risso said the intent was to include these in the setbacks to property lines. Brem agreed that the property line is different from wetlands. The Board agreed that if property line was the intent, the definition may need rewriting. Risso said he is comfortable with keeping 100' to wetlands. The basis for this regulation was the extremely large SAS proposed by Coventry Woods immediately adjacent to a property line. Brem said there needs to be some distance to build a swale to control runoff; drainage cannot run onto neighbor's property if it did not before. Holland said Title 5 requires a swale with a fill system close to the property line since the system is now exposing soil and prone to erosion. The Board questioned whether this referred to the toe of the slope or end of the trench. Brem suggested adding a new section limiting all slopes and retaining walls a certain distance from property line. Risso favored a minimum of 5' and suggested that breakouts and retaining walls shall be located no closer than 5' to property line to allow for construction of a swale. The Board agreed to check Title 5 on when a swale is required.

The Board agreed to clarify the definition of an SAS, which includes alternative technology (I/A) systems in 15.002 and the setback to property line will be added to distances 15.211. As for the SMI comments on ILSF and BLSF the Board agreed they had been covered.

SMI also expressed concern about the cost and access if topographical surveys are required onto adjacent lots. The Board agreed that the intent was to show constraints within 100' of a proposed SAS. Brem proposed the following: "Special topographical conditions outside of the property boundaries which may impact the siting of a septic system in compliance with Title 5 and these regulations for 100' beyond the property lines such as flood hazard zone and wetlands to the best of the applicant's ability including the use of available maps and/or field survey with appropriate permission of land owners". Risso asked whether this includes septic systems and wells. Brem said these are covered in #7 and 8, 9. In #17 the Board is looking for special topographical conditions. The Board agreed with the new wording.

SMI also objects to limiting retaining walls to 5' in height. The Board agreed this has been well debated and made no changes. As for Pre-Existing Non-Conforming lots, SMI object to the new regulation. The Board however believes it is appropriate. It is intended to prevent tear downs, which turn into new construction after benefiting from waivers granted by the Board to replace a failed system. No changes were made.

SMI also disagrees with setting a 5 mg/l nitrogen at the property line. Risso said he will not vote for the revised regulation if this is dropped. Holland said he is comfortable with 10 mg/l, which is a conservative analysis. He has never had a well test more than predicted. Brem asked Holland to explain. Holland said that when you analyze the nitrogen load using a hydrogeological model it usually produces a conservative result. Holland said he has never had more than 10 mg/L at the property line. With the monitoring wells used to detect nitrogen, he has never had one that exceeded the model. Brem said that he has experienced one instance where in the middle of a cluster site that they were working on, there was one small area that was predicted to exceed 5 mg/l. This might happen in a large cluster development such as the Wilson property. The intention is not that any two lots would have to meet the 5 mg/l of nitrogen, but he is concerned that in the future someone might take this interpretation of the regulation. The Board agreed that this refers to the readings at the property line of the entire project, not individual lots. The Board debated how to clarify this and agreed to change the wording from property line to project perimeter so that the intent is clear. Deignan asked why the Board is drawing a distinction between individual lots in a development and those surrounding the development. Holland explained that if you had a 12 lot subdivision and you had a shared septic system within the parcel half to one acre conservation cluster lots, the goal is not that the septic system meet the requirement crossing the internal lines of the cluster but where it is affecting the original abutters. As for the people that are living there, the internal lots will still have to meet the 10 mg/l DWS. Brem said the difference is between asking for a conservative 5 mg/l at the project boundary to protect abutting properties compared to the standard 10 mg/l for internal lots. There was no further discussion. (Brem left the meeting to attend the Selectmen's meeting. Risso assumed the chair.)

## **ADMINISTRATIVE REPORTS**

Health Fair – 3/29/08. Fantasia contacted the Lyme Disease Association (LDA) asking for a representative to attend. LDA is looking for someone who lives nearby. Emerson Hospital staff will do the blood work. Typically seniors take advantage of the free testing. The Board hopes to encourage all residents to attend. The Board's intern, MaryKate Martelon, is preparing Neighborhood Network forms and flyers. MRC photo ID badges will be distributed.

Kimball's Ice Cream – Fantasia spoke with Rae Dick from the Westford Health Department. The state is reviewing the new operational plan. Major changes were required in the packaging, labeling, and distribution of ice cream products following the fall inspection. Due to confusion over licensing requirements, inspections were not being done by either the state or the local authority. The licensing procedures have now been corrected. Once the state approves the plan, Westford will contact Carlisle. Kimball's would like to open April 1. The owners have been very cooperative in making the changes. Holland asked if Kimball's was buying raw milk from producers and whether the state dairy inspectors were involved. His cheese making plant receives regular inspections. The Board agreed to wait on licensing the Carlisle stand until Westford and the state are satisfied with the new operation.

Intermunicipal Agreement – Concord has not submitted a new contract. Brem said he would follow up. He suggested that Carlisle investigate other towns in case it does not work out with Concord.

HAM Radios – the Board receives two radios with antennas as a result of a municipal public shelter grant. Dave Willard, Thornton Ash are interested in organizing a local group of operators to help out during an emergency. Willard suggests rotating the equipment among operators so that they can become familiar with the frequencies. There are 30-40 licensed HAM operators in town. The grant was for \$1800. Each radio cost \$795.00. Fantasia obtained a copy of Acton's plan as a model. It might be possible to locate one at the school and a second at town hall as a back up to Fire and Police communications. (Brem returns to the meeting).

Non-Criminal Disposition – Brem reported that town counsel said the fines can only be used to enforce local regulations. Counsel reworded the article and the Selectmen were preparing to close the warrant. The Board did not agree with this interpretation feeling that the most appropriate use might be for Sanitary Code violations. Risso said that untended trash and garbage would be an example of where a fine would be useful.

The Board agreed it would have to limit the article to septic and well regulations for now in order to get it on the warrant. Changes could be made at future town meetings.

81 Craigie Circle – well location. Ben Ewing from SMI appeared before the Board. The engineered as-built showed the new well to be less than 25' from the property line. When it was being installed, the owner asked to avoid removing a mature tree. The driller agreed to shift the well slightly, not realizing that the well no longer met the setback. A new application and request for waiver was submitted to cover the placement of the well. It meets the setbacks to abutter's septic systems. There is additional room to the roadway as a result of the right of way. The Board has granted similar waivers in the past.

It was moved (Risso) and seconded (Deignan) to issue a waiver from the Town of Carlisle Water Supply Regulations for the placement of a private well 22.5' from the property line at 81 Craigie Circle. Motion passed 4-0-0

## **PH (cont). REVISED SEPTIC REGULATIONS**

The Board considered a memo dated 2/15/08 from the Planning Board, which contained 23 comments. Brem said that only half would need discussion since the others have been included or addressed. The first comment deals with requiring additional study for systems greater than 2000 GPD. This is the equivalent of 18 bedrooms at 110 GPD. Several of the systems together might not trigger DEP review, but should be considered jointly. Planning Board would like to see this threshold reduced to 15 bedrooms to offer more protection. The table should be amended to the 15 bedroom criteria, rather than the 18-19, which results in 2000 GPD. Brem explained that the reason the Board chose 2000 GPD is that it is consistent with Title 5 which uses this number as a cutoff for a larger system.

Planning Board also made a number of "clean up" suggestions for consistency in terms. The Board agreed these have already been reviewed and edited as needed. The Board agreed to look into the numbering system. As for the use of the terms waiver and variance, the Board agreed they were well defined – local relief is a waiver; state relief is a variance. Holland disagreed that the numbering system meets the intent of the regulation, such as in preparation of plans. The numbering system matches Title 5. The Board agreed no changes were required.

For shared systems, Planning Board submitted a number of questions as to what should be included in a hydrological study and the criteria for denial. Brem said that if the study is done correctly and it shows that the design will work, it will be approved. The question arises when the study indicates a problem. Risso said it would depend on how bad the problem is. The Board agreed that it has a standard for nitrogen at the project boundary, but what if something else shows up such as groundwater flows towards a well. Holland has offered to check with the state. Risso said criteria could be incorporated into the review. Brem said the two points that the Board wants to consider is whether it will affect groundwater at the property line and will it increase nitrogen at the property line. The direction of groundwater is important in reviewing the system, but if it shows that nitrogen is at 5 mg/l at the boundary, it does not pose a problem. Holland said that if it is 5 mg/l at the property line and a well is 100' away, it should not be a problem. The applicant could also ask for a waiver. For example if nitrogen is 8 mg/l at the property line and the well is 700' away with a large wetland between, that would not be a problem. If the model predicts breakout at the toe of the slope and it is 300' away from the system, no one will worry. If it is in the center of the model and breaking out in the middle, then it is cause for concern. The Board agreed to take this under advisement.

The Board agreed to recheck the references to single compared to multiple lots. The Board has already discussed monitoring wells. Planning Board wants the Board to include fecal coliform and viruses as well as nitrogen. The Board agreed that it does not have enough data. Holland said there is not a recognizable standard. Working with 5 mg/l nitrogen everything else will be proportional. It is not possible to do something to a septic tank that would preferentially allow viruses to thrive and keep nitrogen at 5 mg/l. Risso said he would like to see more such as impacts from prescription drugs, but there is just not enough data to set limits. Holland said that is a bigger issue for treatment plans and elderly housing.

The Planning Board memo also asks for testing of neighboring wells, both quality and quantity. The Board does not feel this is warranted unless the hydrogeological study shows a negative result, in which case the Board would probably not approve the design. Brem said the point may be to identify impacts to water supply. The Board agreed this relates more to the design of the public water supplies than the septic systems. In Coventry Woods the abutters claimed that the five wells were actually a field and as such they wanted to know whether the quantity in their wells would be impacted. This is a quantity issue not a quality issue. The Board will consider this when it revises the Well Regulations.

The next question is why the Board removed the 5000 GPD cap. The Board had explained at the Coventry Woods hearings that it is the local approving authority up to 10,000 GPD, which require state approval. If local regulations only deal with systems 5000GPD or less, there are no local requirements for systems between 5 and 10,000 GPD, which does not make sense. The next comment deals with increasing setbacks for larger systems. The Board agreed that it has a better approach by requiring alternative technology and hydrogeological studies. Simply increasing the setback for every large system is not very scientific. Holland said the guidelines for setbacks for a small WWTP are the same as Title 5. The fact is that the disposal field will be setback because it will not be possible to suppress the hydrogeologic mound within the property line. The intent is to have the mound under the system rejoin the natural groundwater elevation within the property line. That is what drives the setback to the property line and something that the Board should look at. Setting a specific setback is not the appropriate way to deal with this. This can be a problem in Carlisle with larger systems since groundwater must be 4.0' below the system and in Carlisle groundwater is often 4' or less to the surface so most systems are mounded. There may be extenuating circumstances where it is all right to allow the mound beyond a property line. This is up to the Board to decide. Holland said it is rare for a large system to get close to a property line.

The Board agreed that it does not have the jurisdiction to require alternative technology (I/A), although it does encourage them. Holland asked if the regulations require I/A systems with reconstructive systems less than 100' from wetlands. The Board agreed this was not a requirement. It can be done in a waiver request. This could be a policy.

The next question deals with pollution of an abutter's well. The Board does have the authority to deal with the situation. It would be better if the Board had enforcement procedures. As for inspecting larger systems more frequently than every three years, the Board agreed to follow Title 5. If warranted the Board can always require an inspection. Final comment deals with siting retaining walls per the zoning setback. The Board agreed that this was not within their purview. They do not grant exemptions to zoning.

The next memo was submitted by Cahill relative to correcting the wording on granting of waivers. This has been corrected. Town counsel only had minor editing notes. Another memo from Conservation clarifies the distances to wetlands. The Board changes distances to minimum setback distances; it agrees with Title 5.

Brem said he would not close the hearing, but asked for other comments. Fantasia asked about the design flow table. Planning Board would like to reduce the threshold to 15 bedrooms. Planning Board is looking at the number of bedrooms for a typical development. They would like the table to refer to number of bedrooms/houses per lot. Brem prefers to stay with Title 5, which is based on bedrooms and GPD and not lots and houses. The Board prefers to remain consistent with Title 5. Planning Board would like a maximum of fifteen bedrooms. The table is set up for GPD. The only other way would be to take 15 bedrooms x 110GPD and change the maximum. Risso likes it the way it is. Holland said that it is difficult enough to do a Mod-Flow study on 2000GPD. To do it on less does not make sense. The Board agreed that the current table covers the more basic scenarios. Brem would like to close the hearing and vote on the same night. Holland needs more time to get information from the state. A final draft will be distributed. The Board is in agreement on the changes.

It was moved (Risso) and seconded (Deignan) to continue the public hearing to 3/25/08. Motion passed 4-0-0.

Stearns Street Drainage Problem – The owner of 15 Stearns Street is claiming that runoff from the neighbor's property is flooding the basement and that the water is contaminated. The Board looked into the situation in 2007. Frado checked the septic systems at 15 and 39 Stearns Street. There was no sign of breakout from either system, both of which are new. 15 Stearns Street is a very wet lot. The grass had some wet spots and evidence of an old drainage system. He recommended having the drainage evaluated by a professional. There did not appear to be a public health issue. The Board had asked for copies of the water report since it is unclear what was sampled – basement water or well. No reports have been filed. The Board agreed to ask again for the water analysis and table the discussion for more data.

Minutes – It was moved (Risso) and seconded (Deignan) and unanimously voted to approve the minutes of 1/3/08 and 1/15/08.

Meeting Dates – 4/8/08, 4/22/08, 5/13/08. Rabies Clinic – 3/16/08.

Administrative Assistant – Personnel Board approved the new shared Land Use position. Gretchen Caywood is now working part time for the Board of Health and Planning Board. The Board agreed to reconsider Caywood's rate of pay since her background in chemistry will count in the job description.

Community Septic Loan Program – the Board agreed to ask for \$200,000. An article has been submitted to town meeting authorizing the town to borrow the money. Once the authorization is approved, the town can apply. There will be a public information meeting to explain the program.

Generator – the Board used \$800 in grant money to purchase a used generator to be installed at the school so that some of the facility can be used as a public shelter or emergency dispensing site.

Bills – It was moved (Risso) and seconded (Deignan) to approve the bills as presented. Motion passed 4-0-0.

There was no further business discussed. Meeting voted to adjourn at 9:30 p.m.

Respectfully submitted,

Linda Fantasia  
Recorder